Algebra II Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Unit 9 Test Review Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period\_\_\_\_\_\_\_\_\_\_\_\_\_

I. Evaluate. **Round to the nearest hundredth.**

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II. Write the equivalent logarithmic equation

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III. Write the equivalent exponential equation

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IV. Simplify each expression.

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V. Use the Natural Logarithmic Properties to expand or express as a single natural logarithm.

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| 1. **Expand.** | 1. **Condense.** |

VI. Solve for x. **Round to the nearest hundredth.**

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| --- | --- |
|  | 16) |
|  | 18) |

VII. Solve for x. **Round to the nearest hundredth.**

|  |  |
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| 19) | 20) |

VIII. Use Logarithmic Properties to solve the following equation for x.

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| 21) |
| 22) |
| 23) |
| 24) |

IX. Find the amount A using the continuously compounded interest. **Round to the nearest hundredth.**

25) **What is the formula for continuously compounded interest?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_­­­\_**

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| 26) $1,250 at 5.6% for 5 years | 27) $2,300 at 3.8% for 2 years |

X. Find the time t using the continuously compounding interest. **Round to the nearest hundredth.**

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| 28) How long will it take to double your money if you deposit $28,000 at an annual rate of 4.3% compounded continuously? |
| 29) How long will it take to triple your money if you deposit $730 at an annual rate of 2.9% compounded continuously? |

XI. Find the amount A using the continuously compounded interest. **Round to the nearest hundredth.**

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| 30) The amount of radioactive carbon-14 remaining after *t* years is given by the formula N(t) = N­­0e-0.0045*t*. How much of a 32 milligram sample will remain after 75 years? |